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BULBS FOR SPRING PLANTING

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U. S. Department of Agriculture

The Amaryllis, Iris, Lily, Arum, Orchid and Other Families.

Listing new Callas, Orchids, Amaryllids and Miscellaneous Bulbs.

Articles: Join the American Amaryllis Society; Bulbs for Southern Gardens;
Vitamin B, for Bulbs; Complete Culture Directions for All Listings.

SPRING 1941

CECIL HOUDYSHEL

1412 Third St.

La Verne, California

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JOIN THE AMERICAN AMARYLLIS SOCIETY

A Personal Letter to You.

Dear Friends:

Have you ever read a "Pen Pal" column and noted therein the lonesome ones who crave letters? They should engage in a mail order business. We often get 100 to 200 letters a day in our busy season.

Many are friendly letters, others requests for information and still others say, "for the enclosed remittance, please send—." We like to get them all. But we cannot give an individual answer to many. But twice a year I write this personal letter—to you.

Thank you for the words of appreciation, the increased volume of orders, for the exchanges of bulbs and even the many gifts of rare bulbs and bulb seeds which we try to repay.

I am glad to be able to offer you the best bulbs we can grow and to give in this catalog the best culture advice that over 40 years' experience permits.

To this, I want to add my personal message to all those who love flowers. If you love flowers to the extent of collecting and growing them, you most likely have high ideals about all that pertains to human welfare. This fact has been illustrated in a few of our recent letters, expressing a hope for peace among nations.

Without comment on present world affairs, there is a fundamental conclusion in which all will agree. Individually and collectively we need to cultivate sanity, probity and love for mankind even in its weakness.

These are both individual and national needs. If we as individuals preserve our poise, we influence others to do the same. Thus we do our part in maintaining a national poise.

A garden is a good place in which to think. We often think more sanely there than in an assembly.

Associations with those who love flowers brings self improvement. Garden Clubs are as uplifting as service clubs even tho they talk only about flowers, and little about ideals.

I am not saying that gardens are in any way a part of national defense. But they are a part of individual and therefore national poise. One item in a long series. Another item is enthusiasm for the affairs of our national life, education, religion, business, etc. Everyone should have a job and like it, give it the best he has, because it is a public service. There are plenty of jobs if we could only think more about our duty to society, which is to work, and less about society's duty to us.

We should all work hard, then relax. One of the most rational means of relaxing is to have a hobby. There are none more interesting than that of collecting and growing bulbs. Bulbs of the Amaryllis Family are most interesting, very diverse, and they intrigue not only our physical senses but our intellectual nature as well.

Let me suggest that you join the American Amaryllis Society and grow some Amaryllids this summer. See Amaryllis Family for explanation of the Society and the way to join.

Mrs. Houdyshel joins me in all good wishes to you.

Sincerely,

CECIL HOUDYSHEL

Terms and Instructions for Ordering

Read the following carefully. It will avoid delay or misunderstanding.

Sales Tax. California customers add 3% for state sales tax.

Order Early. Late planting results in less satisfaction with most bulbs.

Remit with order, by check or M. O. Currency or coins are acceptable but not always safe way. **Stamps** reluctantly accepted in small amounts but customer must add 6% to amount remitted. This is a small office. They handle much mail for me. My stamp purchases help this office.

C. O. D. Orders involve more labor for us, more risk. More expense to you. Our prices are based on "cash with order." If possible, please avoid ordering C. O. D.

Postage prepaid on order of \$1.00 or over. Under \$1.00, add 10c for postage and wrapping. Insurance 5c extra.

Prices given are for one bulb unless otherwise stated. A dozen costs ten times the price of one. Six bulbs are sold at the dozen rate. The 100 rate, if not given, is 70 times the cost of one, but no less than 100 will be sold at the 100 rate. For 50 bulbs apply the price of 4 dozen.

Wholesale. Dealers send for our Wholesale Bulletin. Use your business stationery or otherwise identify yourself as a bonafide dealer.

Garden Clubs, who pool their orders for collective buying in quantity, send for our Garden Club Bulletin. We give you wholesale prices and discounts on a "transportation prepaid" basis.

Foreign orders. We ship to every part of the world. We pack expertly and our bulbs will arrive by mail in perfect condition. Postage is prepaid if no greater than to our 8th zone. Best to remit a little extra. If too much, we send extra bulbs.

Errors. We make a few, not many, but we cheerfully correct them, or explain a misunderstanding. Notify us at once. Courtesy pays.

Guarantee. Our bulbs are true to name and healthy. We do not however accept any responsibility for their performance since we cannot control the conditions of their growth. If, in your opinion, our bulbs are not up to our specifications, please notify us at once when you receive them.

Culture directions are not sent with bulbs as all necessary information is given in this catalog.

Exchanging. We will exchange for or buy good bulbs that we can use. We want rare ones especially. Customers domestic or foreign, are invited to tell us about unusual or rare bulbs.

Catalogs. Spring Catalogs are sent out January 15. Fall Catalogs Aug. 15. An Iris Price List is available in April. Iris list is sent only to those who request it.

The Catalogs are sent to all customers and to those who request to be on our mailing list. But if no orders are received for two successive years the name is dropped.

Correspondence. We enjoy the many friendly letters received from customers and are helped by many reports on the hardness of certain bulbs, notes on culture experience, etc. Unfortunately it is impossible to give the personal answers we would like. Our personal letter to you is on page 2 of this catalog. Complete culture directions are in this catalog. Please do not ask for personal advice if avoidable. When really necessary we will help all we can.

Culture Information. Reference works. We use, recommend and sell Bailey's Cyclopedia of Horticulture. 3 vol., over 3600 pages. Price \$15. Postpaid. Refer to it on all garden subjects. In most City Libraries.

We cannot too highly recommend the following magazines. We read every one with both pleasure and profit.

Madison Cooper's Gardening. (\$1) Dept. H., Calcium, N. Y.

Sunset Magazine (2 yrs. for \$1 in the States of Arizona to Idaho and west, or Br. Columbia. East of that, U. S., Canada and Mex. \$1 per year.) Other foreign, \$1.50 per year. Dept. H., San Francisco, Calif.

Flower Grower, (\$2) Dept. H., Albany, N. Y.

Home Magazine section of Los Angeles Sunday Times.

The last three are sold at newstands. Do not send to us. Send to publishers only. Sample copies, 10c. Price per year in parenthesis.

For best information about bulbs of the Amaryllis Family consult *Hortibertia* published by American Amaryllis Society annually. See listing under Amaryllis Family.

General Culture Directions. Luther Burbank once told a customer who reported a failure with his seeds, "A failure is an accomplishment." A good gardener needs intelligence, information and ability to reason and learn from experience. He needs also the ability to accept his own responsibility for occasional failure.

Special directions are given in this catalog for the culture of bulbs along with the descriptions. But certain general rules apply to most of them.

Depth and spacing. Usually bulbs may be planted about two or three times their diameter apart. Small bulbs like Zephyranthes and No. 3 Ranunculus and Anemones should be covered 1" or 2"; large bulbs should usually be planted 4" or 5" deep. Exceptions are mentioned in the proper place. Bulbs should be planted deeper in sandy than in heavy soils.

Some bulbs, like certain varieties of Glads, grow tall and are easily blown over. They need to be planted 5" or 6" deep. Be sure there is at least 6" of good rich loose earth under a bulb, and 12" is better.

In cold countries bulbs that remain in the ground over winter may be planted somewhat deeper and ground mulched in fall. Brush and leaves good.

Soil. Rich sandy loam is the best soil for most bulbs. But heavier soils are also good and are preferred by some, especially Bearded Iris. In heavier soils the drainage is likely to be poor if the ground is flat, and this may be improved by deep spading, even to 2', and the incorporation of much humus. Weeds should be turned under, not burned. Half decayed and broken tree and shrub trimmings buried between the 1' and 2' levels helps the drainage.

Fertilizers. Manure is the safest, all around fertilizer. It can be applied fresh to fallow soils and thus save the nitrates. Do not plant until it has fully rotted. Rotted manure can be spaded in a week or so before planting. A month before is safer. Some plants, like Iris and Lilies, should not be planted in manured soils for a long time. Acid loving plants should have much peat or leaf mold, especially from oak trees, in the soil. Use imported peat, as many American peats contain alkali.

Chemical fertilizers are a hazard if not properly used. Superphosphate in small doses is good for Glads and other acid loving plants. For "big feeders" like Hippeastrums, Crinums, Clivias, Fancy Leaf Caladiums, etc., use manure and balanced fertilizers. Even fresh manure may be used very sparingly as a mulch on some.

Many cut off the tops of bulbous plants as soon as they are thru blooming, or they let them dry up and die. Results are usually fatal. Keep them watered and cultivated as long as they will grow. That makes good bulbs and good flower buds. Daffodils should grow until late June here and later in the north if you want large bulbs and many flowers next season. All bulbs should grow a long time after flowering.

Potting. Be sure drainage is perfect. If not, the soil becomes soggy and sour and plant dies. Place piece of broken pot over hole. Over that small gravel. Soil may be one third humus; one third fine sand; one third rich garden loam. For humus use leaf mold, peat or thoroughly decayed manure, or a combination. Acid loving plants should have the peat or leaf mould, preferably from oak leaves. Bulbs requiring neutral or slightly alkaline soil should have decayed manure or if leaf mould is used add ground limestone or shell. Pot may be 3 or 4 times the diameter of bulb. Large pots favor growth and increase of bulbs. Smaller ones force bloom. When first potted see that soil is moist. Place in dark or shade. Darkness encourages root growth. It is very important that roots are well started for a bulb to make good flowers. Light encourages top growth. If this is made without roots the bulbs suffers and gives an inferior flower. Bring to full light gradually only when growth is well started. Give little water until growing well. Some

bulbs rot if given much water before they are rooted and growing. Don't hurry them.

Bulbs should be potted early in order to give plenty of time for root growth. If delayed the results are less satisfactory.

ACID AND ALKALINE SOILS

Most plants thrive in a wide variety of soils and are not too particular about the soil pH. Such plants are widely distributed and include our most common ornamental and economic plants and especially weeds. But some of our most important plants are very exacting in their requirements.

The pH of the soil (or any substance) is measured in units thus, pH 5.5. It refers to the relative acidity or alkalinity and this depends on the concentration of the hydrogen ions. The scale runs 1 to 14. pH 7 is neutral. Below that the acidity increases as the pH decreases. Above pH 7 the scale indicates increasing alkalinity.

Most semi-aquatic plants and shade loving plants do best in a mildly acid soil. This will include most plants that grow in woods or bogs.

Among bulbs the following do much better in mildly acid soils, around pH 6 and some possibly like more acidity. *Gladiolus*, *Vallota*, *Callas*, *Caladiums*, *Arums*, *Lilies*, *Haemanthus* *Nerines*, etc. Those requiring neutral to mildly alkaline soils are *Iris*, *Hippeastrums*, *Narcissus*, etc.

The acidity of a soil may be increased by the incorporation of any form of vegetable matter. The most acid is imported peat, leaf mould and tan bark. In fertilizers Superphosphate, Aluminum sulphate and sulphur are acid.

Lime, gypsum, ground shell, manure with ammonia odor and commercial nitrogenous fertilizers are alkaline.

Vitamin B1 has been proven a useful stimulant for bulbs. In transplanting, soak the roots of bulbs or any plants in a solution and the plant does not even wilt. We have done this with *Hippeastrums* in bloom and the flower was uninjured, lasted for days and ripened seed. Use it on growing plants for better plants and bloom. Our prices are 100 tablets for \$1.00. 40 tablets 50c or 18 for 25c.

Directions for preparing and using Vit. B1 solution. The Tablets keep indefinitely. The solution should be prepared only as needed but will keep a short time in a refrigerator.

There are two solutions, maximum strength and minimum strength. To prepare either, dissolve a tablet in 20 drops, $\frac{1}{2}$ teaspoon, of water in a small vial.

For the maximum solution add the entire 20 drops to one quart of water. Use this solution for spraying small seedlings, either of bulbs or any plants, three times a week. This gives more rapid growth. Soak seeds having a thin seed coat in this solution for 24 hours, for better and more rapid germination. When transplanting bulbs, shrubs or any plants in full growth, immerse their bare roots in this solution for 15 min. We often dilute to one gallon for this purpose and immerse roots for one hour. After planting apply remainder of solution and follow with plain water, enough to saturate the soil.

But do not soak dormant bulbs in either Vit. B1 solution. It causes them to rot.

The minimum solution is prepared by adding the 20 drops of stock solution to 20 gal. water, or one drop to one gallon. Use this to water growing plants in soil. Use once a week for plants in the garden, but only once in two weeks for potted plants. Use water irrigation between times. Good results may be had with bulbous plants like *Clivias*, *Hippeastrums*, etc., when starting to grow well and during growth of flower stem, thru blooming and all later growth by the use of this solution alternating with water and occasional use of weak liquid manure water. You may expect larger and better flowers and plants.

These directions apply only to the tablets we offer. We send these in bulk and without directions. Therefore save this. The directions are more complete than those obtainable elsewhere.

BULBS FOR SOUTHERN GARDENS

Our bulbs are grown in the south and we grow all those most ideal for southern gardens. Many of them are perfectly hardy in the north as well. Those that are too tender for outside growing in the north are ideal for potting.

Many very fine bulbs are seldom seen in the average southern garden. An example is *Veltheimia*. It is one of the most beautiful of the Lily Family. It is easy to grow, not expensive but being only recently introduced few know about it. It blooms from December, when flowers are scarce, until about June, giving several flower spikes from one bulb. Its only objectionable character is that the best time to plant it seems to be August before the fall gardening season begins.

Veltheimia bears little resemblance to the true Lily but another member of this family does. The *Gloriosa* or Climbing Lily is also becoming more popular because increasing stocks have lowered its price. But as yet both of these plants are only occasionally seen. You can still point them out in your garden as rare. Both are exquisite as plants and flowers.

Altho nature planted many Orchids in various sections of North America, our gardens show few. Many of them are dainty and exquisitely beautiful. They are hardy and you can grow them from Maine to California. *Bletilla* are easiest.

Clivias, like Orchids, have until recently been considered the flower of the rich man's conservatory. But our large stock enables us to make them available to all and they can even be grown outside in milder southern sections. We are offering hybrid *Clivias* this year at \$2.00 each, a much reduced price.

*Crinum*s were like a myth in my youth in the middle west but I found them fairly common in So. California. They are even more popular in Florida and extend west to Texas, north to Washington, D. C. But the finer species and hybrids are not common. The hybrids *Cecil Houdyshel* and *Ellen Bou-sanquet* are among the best. In the south *Crinum*s, like shrubs and trees among which they should be planted, are permanent and need never be disturbed or dug. They furnish abundance of summer flowers with little effort to the grower. *Crinum longifolia* is hardy in the north.

Hippeastrums (commonly called *Amaryllis*), *Sprekelias*, vivid red flowers (also are *Amaryllis*); *Chlidanthus*, fragrant yellow *Amaryllid*; *Ismene* or *Peruvian Daffodil*, richly fragrant and lovely are all favorites for growing in pots in the north but in the south are quite hardy in gardens.

The most striking *Hippeastrum* of southern gardens is the variety *Johnsoni*. But newer hybrids far surpass it in size and beauty. We recommend the Howard and Smith strain of these as the best offered commercially.

All the following are most useful *Arums*, *Callas*, *Orchids*, *Ranunculus*, *Tuberous Begonias*, *Achimines*, etc.

Please read all the following descriptive pages of our catalog. Note our very careful discussions of culture methods and this summer you may have, whether you live north or south, a most gorgeous **Tropical Garden**.

ARRANGEMENT OF CATALOG

Most catalogs are arranged alphabetically. This catalog groups the plants according to Plant Families. Thus the *Amaryllidaceae* contains all bulbs belonging to the *Amaryllis* Family. Look for them there. When you order, do not order an "*Amaryllidaceae*" but order a *Hippeastrum*, *Clivia*, *Crinum*, etc.

THE AMARYLLIS FAMILY—AMARYLLIDACEAE

This family includes the bulbs from *Agapanthus* to *Zephyranthes*.

The **American Amaryllis Society** is an association of those thruout the world who grow *Amaryllids* as an interesting and intellectual hobby. An annual book "*Herbertia*" of about 250 pages is sent to each member. Therein

is discussed the best culture methods; descriptions of new species; notes on Amaryllids in their native habitat; reports on experiments in crossing, in culture, propagation, etc. *Herbertia* is the essential book of reference on Amaryllids. Beautifully illustrated. I invite you to send me \$2.00 for membership. You will receive the volume of *Herbertia* for 1940 as soon as published, probably within 60 days.

The National Fall Amaryllis show is an annual event. Sponsored by American Amaryllis Society and held in connection with the Flower Shows at Los Angeles Co. Fair. Date Sept. 18, 1941. Last year more than 40 species of fall blooming Amaryllids were shown. These include Amaryllis belladonna types, Lycoris, Nerine, Habranthus, Haemanthus, Pancratium, Vallota, Crinum, Zephyranthes, Hymenocallis, etc. Be sure to attend the Fair on this date and see the exhibit. Send entries if possible. Send to L. A. Co. Fair, Pomona, Cal. for premium list.

Agapanthus umbellatus. Blue Lily of the Nile. The name means "Love Flower." Many blue flowers in a large umbel, on 24" stem. The large plants form very attractive clumps with strap like foliage. Prefers part shade. Very hardy in south and in the north are easily grown and flowered in tubs or large buckets that are wintered in a light warm cellar. 50c. Per doz. \$4.50. Per 100, \$35.00.

Amarcrinum Howardii. A cross between Crinum moorei and Amaryllis belladonna. A delicate pure sweet pink color. Increases wonderfully fast and blooms in all seasons even midwinter here. \$1.00 ea. Extra large, \$1.50 and \$2.00.

Amaryllis belladonna. The Naked Lady Lily, Lady Godiva Lily or Surprise Lily is common in southern gardens. It is of exquisite beauty and very spicy, intriguing fragrance. Equally valued as a cut flower or in the garden. The lovely pure pink flowers begin appearing often in late July. First the variety **major** then **minor** and last of all our unidentified rose variety. The latter blooms about Sept.-Oct. Foliage does not appear until after flowering, hence common names.

Culture. It is much better to transplant about July 1. Thus you will get flowers the first year. Set bulbs with tops just below surface. In cooler sections like the middle south, plant 4" deep. Transplant when clumps become too dense for free blooming.

Amaryllis belladonna are not often reported as succeeding well year after year in pots. But in the north you can at least have a flower the first year, whose sweetness you will long remember. One flower is worth the cost. Advise the variety **major** for this.

Delivery of bulbs about late June, when dormant.

Amaryllis belladonna major. 25c. Per doz. \$2.25, postpaid. 100 bulbs, \$12.50, express charges, collect. Jumbo bulbs, 35c.

A. belladonna minor. White throat. Later flowering. 40c.

A. belladonna, late rose variety. Pure deep rose thruout. 50c. Three for \$1.25.

Anigozanthos flavida. Kangaroo Paws. Dark green foliage resembling that of Iris stylosa. Evergreen. The many branched panicles carry small yellow inconspicuous flowers. Plant is odd and decorative but more interesting to collectors. Formerly placed in Amaryllis Family but recent botanists consider this incorrect. \$1.00 ea.

Clivia, syn. Imantophyllum. Altho easy to grow and to flower by the amateur, they will always be classed with the aristocrats of flowering bulbs, because the flowers easily place them there. Also they increase so slowly by division that the chief method must be thru the freely produced seeds. But a Clivia requires at least five years and usually seven to flower from seed. This time involves expense. They can never become very cheap.

Clivias have evergreen, strap like foliage somewhat resembling that of Hippeastrums.

The flowers are produced in umbels of 10 to 25, in rich and exquisite tones of orange, in March and April. When not in flower the deep rich green foliage and at certain times the red fruits are most ornamental.

Culture. Clivias are choice and rare pot plants in the north. They do so well in pots that they are usually grown that way even in the south. They require almost full shade. An ideal method for outdoor culture is in a lath house with laths spaced only $\frac{1}{2}$ " apart and extending north and south so that spots of sunlight are in motion. The sun must not linger long in one place. They do well under trees or north of a building. They require good drainage, frequent watering in the growing season, a rest with only slight moisture in winter. The soil should be rich and between mildly acid to mildly alkaline, the former better. Give manure water occasionally when growing. They will survive a few degrees of frost, not many, as they are tropical. In semi-tropical climates, they do best in the ground.

A NEW DEAL IN CLIVIAS

We are making a drastic cut in the price of Clivia hybrids. This is less than one half of our original price. Since none of our other varieties or species can be sold in competition with this price they are not offered this spring.

Clivia miniata hybrids. These are very hardy and easily grown. They have the lovely wide open flowers of *miniata*, but in several color tones. The species *miniata* has but one color from which it does not vary. The hybrids in some cases closely resemble that color. Others are lighter, in fact a few approach white. Many are darker in color. The majority have very soft orange toned pink flowers of great beauty.

Special Prices. The largest sizes are offered for \$2.00 each. \$22 per doz. Per 100, \$186. **Smaller blooming size,** \$1.50 each \$17.00 per doz. Per 100, \$139. **Small.** Some of these may bloom this year. Most of them will probably bloom next year but that is unpredictable and a few may not bloom for two years. \$1.00 each. \$11.00 per doz. Per 100, \$90.00. These are assorted colors. If you want a certain color we will send it when first flowers open, but the price is \$5.00.

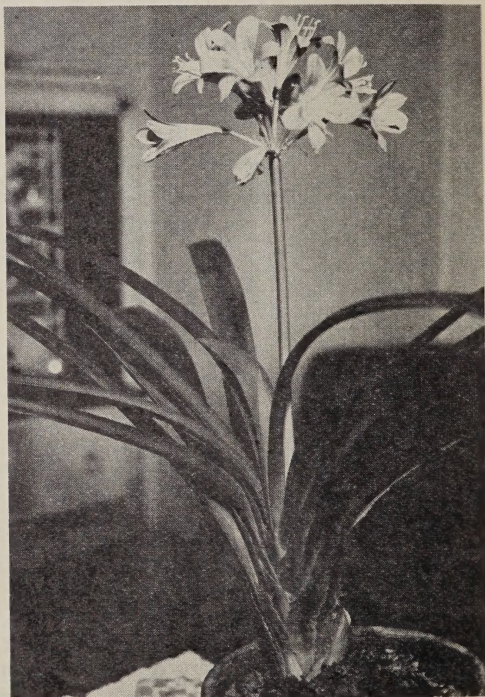
See illustration. This plant was shipped loose—roots, budded, to Adam Steinhauer, Detroit, and picture made two weeks after receipt.

Many ask us to send Clivias in bud. We cannot do that at this price but we can furnish the largest size in bud (in their season) for \$2.50. Smaller sizes will not be furnished in bud as they vary in performance.

We ship Clivias loose rooted. Have pots and soil ready. Roots treated with Vit. B1 take hold more quickly. Immerse only roots.

Cooperia pedunculata. Texas Rain Lily. Closely related to Zephyranthes, and may be handled same way. Hardy except in coldest sections. Probably hardy in the north if planted 6" deep and well mulched. Or dig and store.

The large bulbs have a long neck and should be planted 4" deep in south. Dry climate natives. If occasionally allowed to go on dry side then well soaked, a profusion of most lovely white flowers will follow. 15c ea. Per doz., \$1.25.



Crinum. A most widely distributed genus, some species being native to every continent, probably because the bulbs or large fleshy seed have been distributed by floods and ocean currents. Altho tropical and semi-tropical some species are hardy to Ohio. Crinums are most attractive plants for their foliage alone but adding to that the freely produced, fragrant and lovely flowers they become indispensable objects for southern gardens among the trees and shrubs for tropical landscape effects.

Culture. Most of them like a little shade. Some demand nearly full shade. They like well enriched soil and applications of barnyard fertilizer and plenty of water. Plant with base of bulb only about 4" under surface in the south but deeper in north.

Crinum americanum. The species is native to southeastern U. S. where it is found in several varieties. Some are found in swamps and do not do well in dry climates. This variety came here long ago and does well. The lovely white flowers are tinted pink and have long narrow petals. If freely watered it blooms abundantly. Bulb is small and increases in a peculiar way by underground stolons and quite rapidly makes a large clump. 75c each. \$7.50 per doz.

C. campanulatum. Belongs to "Milk and Wine Lily" type. Markings are bright rose red in a center stripe thru the white petals. \$2.

C. Cecil Houdyshel. The standard of hybrid Crinums for all qualities considered. Altho the same cross as C. Powellii it grows much larger—taller, longer leaves, more robust and many more flowers. Huge bulbs up to 8" diam. It is almost ever-blooming, often producing up to 7 stalks in one year. No other Crinum can equal its profusion of flowers which are attractive deep rose. Blooming size, \$1. Large, \$1.50. Jumbo bulbs, \$2.00.

Dr. H. Baer, living in a hot inland valley of So. Calif. writes on July 8: As I look into my garden, I have to conclude that you are entirely too modest in your claims for **Crinum Cecil Houdyshel**, for at the present moment four large clumps show 150 flowering stalks. I must say that it is the most satisfactory Crinum that I have ever grown.

On the same day we received a letter from Mr. Geo. H. Hamor of the Dominican Rep. (Haiti) giving an equally favorable report. This Crinum origination may have been an important consideration in awarding me the Herbert Medal (shown in front of catalog) by the American Amaryllis Society.

C. Ellen Bousanquet. A gorgeous new hybrid. Very deep wine red of glowing intensity. Vigorous, increases rapidly. Small bulbs, 75c. Medium, blooming size, \$1.00. Large, \$1.50.

C. erubescens. One of the best of the "Milk and Wine" type. Flowers white with red-purple stripe, making a striking effect. 50c. \$4.50 per doz.

C. Gordon Wayne. Our 1938 introduction. A seedling of Virginia Lee and thus the first third generation hybrid Crinum ever raised. Flowers large pure white, in late summer. Like Virginia Lee and its seed parent C. moorei, it has been reported that Gordon Wayne does not do so well in Florida. The cause may be wrong culture or a soil condition. Here in California they are sturdy, thrifty growers, increase rapidly and bloom profusely. Virginia Lee and Gordon Wayne set seed profusely and are the only Crinum hybrids that do. They should have nearly full shade, deep rich well drained soil. Price \$4.00.

C. H. J. Elwes. A clear rich pink of unusual color tone for Crinums, and most lovely. \$2.50.

C. kirkii. One of the best species. White with red band thru center placing it in the "Milk and Wine" type. The large umbels have many flowers open at a time up to 10 or more. This with the great beauty of the flowers make a group of them in bloom a never-to-be-forgotten sight. 75c. Per doz., \$7.

C. longifolia alba. (Syn. Capense alba.) White lily shaped flowers. This is the hardiest species, surviving the winters with protection if planted deep, as far north as Ohio. Better than rosea. 50c. \$4.00 per doz.

C. longifolia rosea. Pink flowered form. 60c.

C. Louis Bousanquet. Very free flowering thru an unusually long season. Pink flowers on a very tall erect peduncle. \$1.00.

C. moorei. Large pink, bell-shaped flowers in the fall, freely produced.

The long neck of the bulb surmounted by rotated broad leaves give the plant great decorative value. Requires shade. Nearly as hardy as *longifolia*. 50c.

C. powelli alba. Extra fine pure white. One of the most valuable and beautiful *Crinums*. 50c. Per doz., \$4. 25 large bulbs, f. o.b. La Verne, \$7.00.

C. Virginia Lee. Our 1934 introduction. Many sold at \$10 each. Hybrid of two hybrids, Cecil Houdyshel x J. C. Harvey, the first *Crinum* so produced. The flowers are large, pink with a white throat. More attractive than *C. moorei*. Must be grown in shade. They become dormant in mid-summer and grow vigorously in cool weather. Price \$2.00.

Crytanthus are closely related to *Zephyranthes*. Bulbs and plants are about the same size but the flowers are long and tubular. Their most vigorous growth and flowering is in the winter, tho a few flowers are produced thru a large part of the year. They may become semi-dormant in mid-summer when hot but should not be dried off much. They like rich soil and respond to barnyard fertilizer.

The winter flowering habit make *Crytanthus* very desirable in southern gardens and for growing in pots in the north. Useful for cut flowers.

Cyrtanthus angustifolius. Orange red flowers. 50c.

C. lutescens. Bright yellow tubular flowers. 35c.

C. mackenni. Clear ivory white flowers on a larger plant. 35c.

Elisena longipetala. Rare Peruvian amaryllid. Bulb and plant much like *Ismene*, *Hymenocallis calathina*, and culture the same. The flowers are much prettier, being pure white with long petals. It may be grown in the north easily, like *Ismene*, by the *Gladiolus* method. \$7.50 each.

Haemanthus. Very rare amaryllids, altho of relatively easy culture and having the qualities of beauty and individuality that should commend them and encourage you to try them. Soil should be made acid by adding peat or leaf mold and keep bulbs dry when dormant.

H. coccineus. Blood Lily. The rather flat bulb sends up an attractive red-mottled flower scape in August to September, topped by an umbel of many small, closely spaced, red flowers, 4" across. There may be 50 or more flowers in an umbel. Later two or three wide leaves appear. The leaves die in the spring. The bulb should then receive no water until August. Plant where water can be withheld. Easily grown outside in the south. In the north grow in pots. Delivery of dormant bulbs in June. Plant at once and save roots. \$1.00. Extra large bulbs, \$1.50.

Hippeastrum or Amaryllis. This genus is popularly known as *Amaryllis* altho botanically a *Hippeastrum*. Recently botanists proposed the popular name be used as the botanical name. It was used by early botanists.

Amaryllis have always been the most popular of all bulbs for pot growing. The large, open, round flowers are in vivid tones of red and ending with nearly white in some species. The colors are the most desirable in a potted bulb for late winter blooming.

The first hybrid, *Johnsoni*, is still one of the best because of its great attractiveness, easy culture and rapid increase. It is not uncommon to see hundreds in one garden in the south.

But the hybrids that have been produced in the last 40 years far surpass the earlier ones. The introduction of new species and their use in breeding have resulted in the production of many new color tones and a vast improvement in the form and texture of the flower. The petals are broader and more rounded. The better ones show little or no green in the throat and many are pure self colors.

Some breeders have somewhat overlooked quality in an effort to produce huge flowers. We have seen flowers 12" in diameter and some have claimed 16" flowers. But in all our observations these huge flowers have floppy, twisted petals that are narrow and pointed. Our own preference is for types having more perfect form, smooth texture, rounded petals and little or no green in the throat. These are usually about 6" to 8" diam. Our Howard and Smith hybrids are the best commercial strain in America.

Most of the so-called white *Amaryllis* have a little color. It is better they should, if one wants a hardy, easily grown *Amaryllis* as the pure white,

altho very lovely, are difficult to grow and increase. They are only good for pot culture as we have lost every one planted in the field. Hence we offer only "Near White."

No Amaryllis are truly everblooming. The Diener Everblooming Strain probably shows more out of season flowers but they require a massed planting to show flowers all the time. But massed plantings of other strains often do that.

Culture. When possible we furnish recently dug bulbs with roots attached. The drying out or removal of roots is a serious set back. Read again our potting instructions under "General Culture Directions." Use a 6" pot for a large bulb. The pot should be about twice the diameter of the bulb. Use a rich sandy loam enriched with well rotted dairy manure. We do not advise other humus like peat or leaf mold as Amaryllis like a mildly alkaline to neutral soil. A little ground limestone or shell may be added. In pots, about $\frac{2}{3}$ of the bulb should be above the soil surface. In the garden cover the bulb. Place the roots, carefully spread, within the soil, then press the soil down and water. Set the pot in a darkened place. Usually they need no more water until bud appears. Then give full light and water a little, gradually increasing.

After flowering, Amaryllis must grow vigorously for several months in order to develop blooming buds for the next year. The bulb should increase in size and produce offsets. To encourage this give plenty of water and sometimes a little weak liquid manure. Many neglect this good culture and complain that bulbs do not bloom. Any Amaryllis bulb that does not bloom, fails thru error in culture.

Growth will be completed about Oct. or Nov. and they may be partly dried off. Some encourage dormancy earlier in order to get very early flowers. They may often be had at Christmas.

Hippeastrum Hybrids. Assorted colors. These are selected from a variety of sources. No poor flowers. 50c ea. \$5.00 per doz. Extra large bulbs, 75c ea.

H. Near White Hybrids. Some have very light pink markings, others heavier but none heavily marked. They give the general effect of a white flower. This is a very vigorous strain unlike the pure white. Rich spicy fragrance. Rather later in blooming. 75c ea. \$7.50 per doz.

H. Howard and Smith Hybrids. We consider this the best commercial strain now available. The petals are nicely rounded, in a perfectly moulded flower. The colors are refined and in countless tones from white backgrounds with light markings to various tones of pink, rose, red and scarlet. The flowers are large, sometimes 8" or more in diameter. We offer these in the following color classes. **Assorted Colors.** The bulbs in this lot are rather larger than those that follow. **White backgrounds,** from nearly white to medium markings. **Red Shades,** many are pure self colors. **Scarlet,** in many variations and tones. Be sure to order as H. hybrid, **H. and S. Assorted colors, White background, Red or Scarlet.** Price, all colors, 75c ea. \$7.50 per doz.

H. Diener's Hybrids. These are claimed to be the largest flowers and are called everblooming. We have seen them over 12" diam. But they lack the perfection of the H. and S. strain. **Assorted Colors.** Some are possibly in copper tones. Small bulbs, unlikely to flower until the second year. 35c. Per doz. \$3.50.

H. equestre. A vigorous species producing lovely salmon pink flowers. Should be grown in very thin sandy soil as it never blooms in our rich soil. 25c.

H. johnsonii. This old hybrid is the one most often seen in southern gardens and is a favorite for potting. The rich deep red flowers, with broad contrasting white band thru the center of each petal, stand out in the garden. It is one of the hardiest, easiest to grow and most rapid in increase. 40c. Extra large 50c.

H. McCann's Double. A few extra petals on an Amaryllis flower is not unusual. But a large flowered Amaryllis, easy to grow, and with flower as double as a rose, often 25 petals, is sensational. Color scarlet red. Price, \$1.75.

H. Sibyl Houdyshel. A "near white," having a white ground with narrow pink border and a pink flush in throat. Very fragrant. \$5.00. Extra large, \$6.00. No wholesale discount. No small bulbs sold. See illustration.



H. advenum, Ox-blood Lily. This is a fall bloomer and winter grower, belonging to the subgenus *Habranthus*. Often listed as *Habranthus miniatus*. Small, dark red flowers in an umbel of 7 or 8. Very hardy and will stand at least 12° below freezing. Probably safe to plant quite far up toward north. Plant 6" deep, full sun. Delivery of bulbs in June when dormant. 20c. \$1.75 per doz.

Habranthus robustus. Formerly listed as a *Zephyranthes*. Large, lilac pink flowers that are useful for cutting. 15c ea. \$1.50 doz.

Habranthus texanus. Usually listed as a *Zephyranthes*. Very small plant and bulb. Deep yellow flowers, coppery outside, in fall before foliage appears. Texas native. Hardy much farther north. Plant 2" deep, or more farther north. June delivery. 15c ea. \$1.25 doz.

Hymenocallis. This genus contains the bulbs commonly known as **Spider Lilies** and the **Ismene**. The **Ismene** is deservedly one of our most popular bulbs but very few even know that new improved forms and hybrids have been produced. The almost ethereal beauty and the fragrance of **Spider Lilies** is known by few.

Culture. *Hymenocallis* are hardy in southern gardens where temperatures do not go lower than perhaps 15° above. Some will endure zero or colder but not the strictly tropical sorts. All do exceedingly well in pots or tubs. Both **Spider Lilies** and **Ismene** in the north may be grown outside in the summer and dug and stored in winter, the *Gladiolus* method. Glads themselves are tropical and no more suited for the north than these. The **Ismene** is even grown commercially in the north. Plant *Ismenes* 4" deep, 6" apart. Smaller species not so deep.

Hymenocallis calathina. The **Ismene** or **Peruvian Daffodil**. Large white flowers, veined green with a Daffodil-like cup. Very fragrant. Large, 25c. M. 15c. S. 10c. Per doz., \$2.00, \$1.00 and 65c.

H. calathina, "Advance." 2' tall. Larger, whiter and more flowers. \$2.00 each. This and the next three varieties are the famous but rare **Ismene Hybrids**. Some time they may entirely replace the type form. Note the much reduced prices.

H. festalis. A *calathina* x *Elisena longipetala*-hybrid. A more graceful form and pure white. Exquisite. \$2.00.

H. festalis Triumph. A further improvement. \$2.50.

H. Sulphur Queen. *H. calathina* x *amancaes*. A yellow **Ismene**. \$2.00.

H. Galvestoniensis. Texas **Spider Lily**. Probably hardy as far north as Tenn. if planted as deep as 6" to 10". Said to be a dainty, graceful flower in its native habitat, but not the equal of the two following tropical species. Moves easily but establishes itself slowly. 25c.

H. species No. 1. A small **Spider Lily** easy to grow in the south. In the north it is grown by the *Gladiolus* method. Blooms more freely after large clumps are made. Plant close. Bulbs bloom easily in pots. 10c.

H. species No. 2. One of the best tropical species. Flowers large in a many flowered umbel. Fragrant and very beautiful. Will endure temp. of 20°, probably lower. Blooms well in pots or tubs. Can be dug and stored in north. 50c.

Leucojum aestivum. Quite hardy in north. Blooms early, often before snow is gone. Dainty white flowers, each petal tipped with a green dot. Delivery about June. 10c. Per doz., 50c.

Lycoris. Fall blooming Amaryllid. Hardy well up into middle south. *Radiata* and *aurea* do not lose their foliage at 20°, and might stand lower without injury. *L. squamigera* is quite hardy in north and probably also *L. incarnata*. All are of very easy culture.

Delivery of all species in June, the best time to plant.

L. aurea. Golden Spider Lily. Very rare and one of nature's most gorgeous flowers. Deep gold. Plant about 4" deep. Prefer sandy soil. \$1.50.

L. incarnata. Flesh colored flowers with reddish markings. \$2.50.

L. radiata. Red Spider Lily. This is one of the south's very best bulbs. A bed of them in bloom will catch and hold the attention in any competition by other flowers. Large umbels on 12" stems of the most vividly red flowers with long, undulated and reflexed petals and very long stamens. One of easiest bulbs to grow. Hardy to North Carolina. 15c. \$1.40 per doz.

L. squamigera. The famous hardy Amaryllis Halli. The flower umbel without foliage resembles Amaryllis belladonna. Color, lilac to pink. Plant 4" deep and mulch in the north. Every northern garden should have them. \$1.00 ea. \$10.00 doz.

Milla biflora. Called in Mexico *Estrellitas* or *Little Stars*. One of the Allieae group formerly placed in Lily Family but recent authorities place them under Amaryllis Family. Two to 7 showy, waxy white flowers on a 12"-18" stem. Green stripe on outside of petals adds striking contrast. Plant early in spring. In north dig and store bulbs over winter. Culture very easy. Plant 2" deep. 15c. \$1.50 per doz. Extra large 20c ea.

Bessera elegans. Inserted here because it is also one of the Allieae. The 18" wiry stems bear a graceful umbel of many flowers, orange red outside, creamy white with orange stripe inside. Blooms July to Oct. 1. Dig and store bulbs in the north. 30c ea.

Nerine filifolia. The smallest Nerine. Evergreen foliage with dainty pink flowers in the fall. Moved any time of year. Hardy only in south, does not stand much frost. All Nelines do well in pots. They need an acid sandy soil. Add leaf mould and peat to a good rich sandy loam. Give plenty water, all the time. 15c ea. 7 for \$1.00.

Pancratium maritimum. Has sweetly fragrant white flowers like the *Ismene* but smaller and has no green in throat. Summer delivery. 15c ea. Per doz., \$1.25.

Phaedranassa carmiolii. A very rare Amaryllid from Costa Rica. Possibly has never been offered before in any catalog. The long tubular red flowers with short green tipped perianth drooping segments in a several flowered umbel atop a 12" scape. Foliage odd and attractive, one or more broad leaves tapering to a point and narrow, almost petioled at base.

Bulbs stand storage well and probably could be grown outside in summer in the north. They also do well in pots. In the south where temperatures do not go much below freezing they are hardy and do well. They seem to flower in the fall, thru the winter and into spring. Price \$7.50 each.

Polianthes tuberosa. **Tuberoses.** Favorite flowers both in south and north where they are dug in the fall and stored. The long spikes have many pure, waxy white flowers with the sweetest perfume in the garden. They are much used for cut flowers. Bulbs should not be chilled in storage as it may kill the flower bud tho bulb is uninjured. Don't plant until weather is warm or flower bud may chill and die. Plant with corn, beans, tomatoes, dahlias. We have a large stock. They should be seen in every garden. Hence we make it possible with new low prices.

Polianthes tuberosa, var. Double Pearl. This is probably the favorite of most gardeners as it has the most perfect spike of double waxy white flowers. 8c ea. 60c doz. \$4.00 per 100.

P. tuberosa, var. Mexican Everblooming. Exquisite single flowers in a looser spike. Many prefer it. 6c ea. 50c doz. \$3.50 per 100.

P. tuberosa, var. Mexican Everblooming, Foliage variegated. Like the preceding except foliage has white margin. 8c ea. 60c doz.

Assorted varieties. 45c per doz. \$2.75 per 100.

Sprekelia formosissima. Jacobean Lily. The gorgeous red flowers have long narrow petals. The three lowest rolled together to enclose the stamens and style and reflexed. This gives a somewhat orchid-like form. Flowers in spring later than Hippeastrums. Fine in pots. Be sure to rest them. Hardy to North Carolina and Washington, D. C. Farther north, store like glads or grow in pots. 25c ea. 5 for \$1.00. Per doz. \$2.00. Largest size, 35c ea. See illustration.



Sternbergia lutea. A small, yellow flowering, winter growing Amaryllid, often called "Fall Crocus." Culture like others of this type. Plant 3" deep. Delivery in June. Each 15c. Per doz. \$1.50. Plant in July.

Vallota purpurea. Blood red flowers resembling those of a Clivia in an umbel in late summer to early fall. Does very well in pots. Must have abundance of moisture when growing and when semi-dormant in winter only a little. Soil 1/3 rich loam, 1/3 sand, 1/3 leaf mold or peat, mildly acid. Then add a liberal amount of fine well rotted manure. Bulbs delivered in April, the best time. Large, \$1.25 ea. Small, cheap, dry bulbs have little value.

Zephyranthes. Fairy Lilies. The smallest and daintiest Amaryllids. They are from 6" to a foot tall. Make wonderful bedding or border plants. Free bloomers thru a long season. In the north they may be dug and stored tho no doubt they would winter safely in milder sections if well mulched. They like acid soil, abundant moisture. Soil acidity can be increased by incorporating peat or oak leaf mold. For *Z. rosea* (possibly others) it may be occasionally necessary to sprinkle the bed with aluminum sulphate, 1 teaspoonful to a square foot.

Zephyranthes ajax. Yellow flowered hybrid. 15c. \$1.25 doz.

Z. candida. The best pure white. Very hardy, rapid multiplier and easy. Blooms from mid-summer on. Evergreen. 5c ea. 35c doz. 50 small for \$1.00.

Z. citrina. Best yellow species. Rare. 15c. \$1.40 doz.

Z. grandiflora. Incorrectly listed usually as *carinata* or *rosea*. Largest Zephyranthes. Pink. 10c ea. 75c doz.

Z. rosea. The smallest Zephyranthes. Very dainty pure pink flowers. This is the true *rosea*. 10c. 90c doz.

Z. robusta and Z. texana, see *Habranthus*, under *Hippeastrum*.

IRIS FAMILY. IRIDACEAE

The Iris is the type plant of this family which includes also *Gladiolus*, *Watsonia*, *Ixia* and many more that we list in our fall catalog.

GLADIOLUS

Since learning how to control thrips, *Gladiolus* with perfect flowers are seen everywhere. If you are not growing a lot of them, and following the culture directions given here, you are denying yourself much pleasure.

Culture. Glads planted Nov. 15 to Mar. 1 in Southern California (a little later in Northern California and early as possible in spring in the east)

are reasonably sure to escape the attack of thrips. But Glad bulbs must be early matured and early dug or they will not start early or bloom early. Our Glad bulbs are especially grown for this purpose, matured early and dug in August.

Thrips are very small insects that suck the juices from the plant. They cause the flowers to wither or appear burned, and appear only after weather becomes warm.

To avoid the damage they do, three measures are effective: Plant early. Plant clean treated bulbs. Keep them always wet by overhead sprinkling.

Treating bulbs. Dissolve one ounce powdered corrosive sublimate in a gallon of boiling water and add to 7 gal. water. Solution must not touch any metal. Use glass, crock or wood container. Soak bulbs 5 to 7 hours. Corrosive sublimate is a dangerous poison, a war material and expensive and delays the starting of bulbs.

We suggest this treatment as probably better. Mix 4 teaspoonfuls of Lysol in one gallon of water. Soak the bulbs 6 hours in this solution. It may be used several times but not after standing over one week. This is an acid solution and encourages root growth instead of delaying it. The bulbs will start more quickly.

Do not treat bulbs bought from us. We treat before selling.

Plant 4" deep, small 3", bulblets 2". Twice their diameter apart. We plant two rows, staggered in a 4" wide furrow. Rows about 20". Alkaline soils produce poor Glads. Soil should be on acid side. Leaf mould or peat added is useful. Peat causes soil to dry out more rapidly and imported peat hard to get. Domestic peat is often harmful because alkaline. Use no fresh manure. An effective acidifier for alkaline soils is to sprinkle sulphur liberally over bulbs before covering. A handful to 3'. Top mulch of leaf mould or imported peat is fine.

Keep Glads growing with plenty of water and best culture for at least two months after flowering. Longer is better for this is the period when new bulbs for next season are developing. It is best to dig bulbs in the south, and necessary in the north.

Fertilizers. Use only Superphosphate, a small hand full to 6 ft. of row, in furrows on both sides, after plants are about 1 ft. high. Apply about once a month. Try a short space first. If it burns, use less.

Explanation. In this list L. means large, 1 1/4" diam. or over. M. means medium, 3/4" to 1 1/4". S. means small bulbs, blooming size. If watered very freely small bulbs produce good spikes. We have seen 1/2" Los Angeles bulbs make plants 5 ft. high by daily sprinkling. Large bulbs bloom earlier and throw more spikes. Prices are for one bulb. A dozen, all of one variety, costs ten times the price of one, unless otherwise stated. Not less than 6, (all of one variety) will be sold at dozen rates. 100 bulbs of one sort are sold at 70 times the cost of one. Unless quantity prices are otherwise stated.

California customers must add 3% sales tax to these prices.

Albatross. Very large pure white. Tall. L. 6c. Per 100, \$3.50.

Annie Laurie. Ruffled rose pink. L. 5c. M. 3c.

Bagdad. Fine large, tall, smoky old-rose. L. 5c. Doz. 45c. 100 for \$2.50. M. 30c doz. Per 100, \$1.25. S. 15c doz. Per 100, 80c.

Betty Co-Ed. Soft creamy pink, like a school girl's complexion. A small glad that's fine for cutting. L. 5c. 45c doz. Per 100, \$2.25. M. 25c doz. Per 100, \$1.35. S. 15c doz. Per 100, 85c.

Betty Nuthall. Early, orange pink, yellow throat. L. 5c. Doz. 50c. Per 100, \$2.25. M. 25c doz. Per 100, \$1.25. S. 15c doz. Per 100, 85c.

Blue Admiral. New, very tall dark blue. 15c.

Dr. F. E. Bennett. Flame red. One of best and easiest to grow. Favorite for cutting. L. 5c. Per 100, \$2.50. M. 25c doz. Per 100, \$1.35.

Dr. Moody. Early large lavender pink. Better and brighter than Minuet. L. 5c. Per 100, \$3.50.

Faust. Colors indescribable. Ground color geranium pink. Outer part

of petals heavily overlaid with slate to deep livid purple. A smoky. L. 12c.

Gate of Heaven. Purest rich, deep yellow. Ruffled. Well named. L. 7c.
Per 100, \$5.00.

Golden Dream. The favorite tall deep yellow. L. 5c. Per 100, \$3.00.

La Paloma. Very early, bittersweet orange. Vivid color. L. 5c. Per 100, \$3. M. 25c. doz. Per 100, \$1.50.

Lavender Delight. Delightful and unusual color, rose purple. L. 7c. 65c doz.

La Verne. Tall, large creamy yellow, flushed pink. Purple throat blotch. Vigorous. L. 6c.

Libelle. Heliotrope blue. The loveliest blue. L. 6c.

Los Angeles. Orange, tinted pink. One bulb produces more flower spikes than any other. Best winter grower. Such a rampant grower that it should be planted not closer than 6" for large bulbs. Also give more water for best flowers. L. 5c. 50c doz. Per 100, \$2.25. M. 20c doz. 100 for \$1. S. 15c doz. 75c per 100. Small sizes bloom beautifully.

Margaret Fulton. Coral pink shading to rose doree on tips of petals. L. 6c.

Marmora. Tall immense smoky lavender. L. 6c.

Minuet. The favorite lavender. L. 5c. Per 100, \$3.00.

Mrs. Konyenburgh. Most popular deep blue. L. 6c.

Pelegrina. Deep violet blue. Early, strong grower. L. 5c. Doz. 50c. Per 100, \$2.25. M. 30c doz. Per 100, \$1.25. S. 25c doz. Per 100, \$1.00.

Pfitzer's Triumph. Immense salmon-red. L. 6c.

Picardy. The most popular Glad, for the garden or for cutting. Tall, extra large, shrimp pink. L. 5c. Doz. 45c. Per 100, \$2.00. M. 25c doz. Per 100, \$1.00. S. 15c doz. Per 100, 75c.

Radiant Orange. Our largest and best true orange. A combination of yellow orange, salmon orange, bittersweet orange and grenadine red. L. 8c.

Red Lory. Scarlet red with rhodamine purple throat. A fine red. L. 6c. Per 100, \$3.50.

Rose Marie Pfitzer. Very beautiful creamy white, suffused pink. Ruffled. A large and beautiful flower. L. 12c.

Souvenir. Pure deep yellow. Prim. The small flowers on wirey stems are graceful, extra fine for bouquets. L. 5c. \$2.50 per 100.

Star of Bethlehem. Large, pure white flowers on a tall vigorous stem. Considered the best white in the cut flower market. L. 7c. Per 100, \$4.50.

The Orchid. Individual flowers in a corsage are easily mistaken for a catalpa orchid in both color and form. L. 8c.

Wasaga. A lovely apricot. L. 5c. Per 100, \$3.50.

Mixed Bulbs. A lot of bulbs are mixed accidentally. Surplus sorts are added. Sometimes we discard new sorts that others like. This mixture in bulbs 1" to 1½" diam., sizes 1, 2 and 3 are offered at 45c doz. or \$2 per 100. M. 25c doz., \$1.00 per 100. S. 15c doz., 80c per 100.

Bulblets. We can furnish bulblets of Picardy, Los Angeles or mixture of best varieties for 40c per pint. Bagdad, Betty Nuthall, Betty Co-Ed., Golden Dream, La Paloma, Souvenir, Wasaga, 50c per pint. Postpaid. Plant bulblets very close in 2" wide furrow. Cover 2". Plant early, keep wet.

Iris. How incomplete our gardens would be without Iris. Our list is too long to include in this catalog. Send for Iris Price List. In it are offered Bearded Iris, Everblooming Iris, Louisiana Iris and several species.

Special offer. We are moving our Iris. We are overstocked on some. Then a few may have lost the label. Probably there are no common purple, or any that are not worth growing. A bargain for massed planting or landscaping. 100 for \$1.00. We will ship only one way, by express, charges collect, but not C. O. D. for price of bulbs. Our **Seedlings**, unusual colors, 35 for \$1.00 postpaid.

Montbretia. Well known member of the Iris Family. It may be grown north or south. Needs leaf mold but no manure in soil and abundance of water. In the north they are hardy in milder sections but where temperatures go rather low it is best to dig and store. Bulbs must not dry out in storage but be covered with very slightly moist soil.

Many dealers supply dry bulbs that do not grow. Ours will grow if you plant at once. Bulbs available until about March 15, but not later.

Montbretia George Davison. New large yellow. Very tall, strong grower. 8c ea. 50c doz.

M. His Majesty. Large crimson. 12c ea. \$1.00 doz.

LILY FAMILY. LILIACEAE

Many call any bulbous flower a Lily which is incorrect. Callas are not Lilies, and do not even belong to the Lily Family. They are properly listed under the Arum Family. The following are true members of the Liliaceae.

Lilium. This genus includes the true Lilies. Nearly all should be planted before Jan. 1. But a few stand storage well if properly packed and may be planted in late winter or very early in spring. But plant at the very earliest date possible. None are likely to be available after Mar. 1.

Plant 4" to 6" deep, depending on size of bulb and your climate. Deep sandy loam is best and must have peat or leaf mould to make the soil acid. Must have good under drainage and a pocket containing a handful of sand under each bulb, with sand around sides and above it is very helpful. The ideal situation is among shrubs or plants that shade the ground and permit Lily tops to have the sun. Plant bulbs as soon as received.

Lilium harrisii. Bermuda Easter Lily. Purest white Lily, most refined in form. Do well in the garden in the south. Order before Mar. 1 only. S. 15c.

L. regale. The hardiest and most useful garden Lily. Once planted it becomes better, taller, more stems and more flowers every year. Very large white flowers with creamy throat. Orchid tints on back of petals. L. 6" bulbs, 25c. 5 for \$1.00.

L. tigrinum. The true Tiger Lily. One of the hardiest and best. Salmon-red, spotted purplish black. Small bulbs only. 15c.

Gloriosa rothschildiana. The climbing Lily. Deserve their name, Glory Lily. Not many even of the true Lilies are as gorgeous. Flowers very similar in form to Liliiums. Vividly colored, red with yellow markings, later turning deeper pure red. Height 4' or more.

Plant Jan. to Feb. in S. Calif. and in mild climates. In the north they may be started in a pot and shifted when warm. Or they may be grown in a large pot and started early in a warm room. We have planted successfully much later but early is better. Gloriosas do not succeed well in heavy soil. They must have well drained porous, sandy or sandy loam soil. If you do not have it, excavate to a depth of 1½' or 2' and fill in with proper soil. They are acid loving and must have plenty of leaf mold or peat added. The stems should have a support to which the plant will cling by the tendrils at apex of each leaf. Plant about 4" deep, 6" apart. Good blooming size tubers, 50c ea. 6 for \$2.50. Large, extra large and jumbo tubers, make larger plants and more flowers. Prices, 75c, \$1.00 to \$1.50. Very few jumbos, order at once.

Heemerocallis. (Means beautiful for a day.) **Day Lilies.** Tho the flowers last but a day they are so freely produced that others take their place. Hardy and easy to grow in all climates. Culture very simple. Set them with crown just covered, in full sun.

H. fulva. The Orange Day Lily. During the blooming season the plant is freely decorated with the lovely orange lilies. 15c.

H. Kwanso. The Double Orange Day Lily is a variety of the species *H. fulva* and is the same except the flowers are double. 15c.

Veltheimia viridifolia. This and the *Gloriosa* are the rarest and most beautiful of little known bulbs of the Lily Family. Foliage alone makes this worth while. Vivid green, wavy margined, in a rosette. Tubular drooping flowers, orchid toned light red, several to a large bulb. Blooms from Dec. to spring, a long time. Good rich sandy loam with peat or leaf mold added to make it slightly acid is our preference for them but heavier soil gives good results. Fine in pots, well drained. Easy culture. Full sun or part shade. As it does not store long in a dry state, it is better to plant about Aug. 1

to early Sept. Order now with remittance and we deliver at best time. 50c ea. Extra large, 75c and \$1.00.

ARUM FAMILY. ARACEAE

This Family includes Calla Lilies or Zantedeschias, Fancy Leaf Caladiums, Arums, etc.

Culture. White Callas should be started in the fall hence not listed here. Zantedeschias or Colored Callas, white, pink, yellow and the new yellow with purple throat may be potted (in the north or south) any time between Dec. 15 and Mar. 1. See Potting Directions on earlier page. They may be planted in the garden in the north as soon as danger of freezing passes. Light frost will not hurt if a mulch of leaves be given.

In the south Colored Callas may usually be planted from late Jan. until Apr. 1, but early planting is advised as late planted bulbs may not flower.

Plant in the garden 2" or 3" deep. A little shade is best. Soil must be acid. Use peat or leaf mold liberally and increase soil acidity by sprinkling sulphur over bulbs before covering.

Do not water potted bulbs much until started. Keep potted plants in a cool room in full sun. When growing, Callas require much water, constantly.

Fancy Leaf Caladiums are grown only in pots in the north and even here in California they are very desirable as potted plants for patios, etc. See Potting Directions on former page. Give almost no moisture until bud appears above ground. They need heat to start off and cold is always fatal especially if combined with moisture. Therefore much skill is required to start them before late spring. Contrary to the usual opinion they may be grown outdoors here and in other semi-arid sections like other plants requiring much moisture. Do not plant until the weather becomes warm. Give only slight moisture until growth begins. Here they need half shade and daily watering. Water, three times a day may be better. They must have acid soil. Peat, leaf mold and rotted manure should be spaded in. They are gross feeders and liquid manure is good for them. When cold weather arrives dry off at once and store in a dry place and keep warm.

Zantedeschia albo-maculata. Spotted leaf calla. White flower, purple throat. Spear shaped spotted leaves are very attractive. S. 10c. Good blooming size 15c and 20c. Jumbo, 25c. Per doz. \$1.00, \$1.50, \$2.00 and \$2.50.

Z. elliotiana. Pure deep yellow calla. Most beautiful of all. 15c and 20c, or \$1.50 and \$2.00 per doz.

Z. melanoleuca. Black Throated Calla. New and rare calla. Plant larger than Yellow Calla and spotted foliage even more decorative. The flower spathe is large, light yellow and widely flaring. Margins and tip recurve and reveal an ample black-purple throat blotch. Small bulbs that may bloom first year, \$1.00. Not available after Mar. 1.

Z. rehmanni. Genuine calla flowers of rose pink. Plant 12" tall. 50c, 75c and \$1.00 ea. The 50c size is not as sure to bloom as the larger.

Amorphophallus rivieri. 3 ft. tall with rich tropical foliage which should be seen in every tropical garden. Flowers nearly 3 ft. long, calla shaped, rich chocolate, dotted red. Bad odor at first. Only immense bulbs bloom. Plant in at least half shade, 4" deep. In the north grow in pots or dig and store in late fall. Not likely to bloom first year. Smaller sizes for 25c. M. \$1.00 to \$1.75. Our largest sizes \$2.00 and \$2.50.

Arum palaestinum. Black Calla or Solomon's Lily. Foliage and flower like callas. Really black. Plant 4" deep and not before about Aug. 1. If not kept perfectly dry until that time the bulbs rot. Flowers about February in pots or in the garden in the south. No bad odor. Best in half shade. Small blooming size 35c. Doz. \$3.25. Large, 75c. Doz. \$7.00. Jumbo, \$1.00. Doz. \$10.00. Give jumbos a 10" pot. Delivery, June.

Arum italicum. Ivory flower. Foliage veined white, ornamental. Hardy in north. 15c and 25c ea. \$1.50 and \$2.50 doz. Delivery, June.

Dracunculus vulgaris. Gorgeous tropical foliage with large black-purple flowers with carrion odor when first opened. Hardy in north if planted 8" to 12"

deep and mulched. 35c and 65c each. \$3.00 and \$6.00 per doz. Delivery June to July.

Sauromatum venosum. Odd tropical foliage, and the most unusual flower, with a spathe 16" long, 1" wide, yellow with purple-black spots. Spathe lies on the ground hence the common name, Lizard Lily. Dry bulbs will bloom out of ground. Disagreeable odor. Need shade, plenty water. Large plants suggest tropical jungle. Hardy. S. 25c. Largest blooming size, \$1.50 ea. Order early.

Fancy Leaf Caladiums. These are the most gorgeous of all foliage plants, even more richly colored than Coleus. Some leaves are like the delicate tints of a lily or an orchid, others rich and luscious like a rose. Caladiums offered at a cheap price are mostly inferior varieties, seedlings or poor bulbs. Ours are good bulbs in best named sorts. Many fancy varieties do not make large bulbs. Labeled with correct variety name if you request it. Best varieties 35c ea. Really good varieties no labels furnished, 25c ea.

ORCHID FAMILY. ORCHIDACEAE

There are many fine terrestrial orchids that we can grow in our gardens. The following list of species are natives of the north, are quite hardy and not too difficult if you observe the following instructions.

Culture. Nearly all require acid soil part shade and moist conditions. There is some variation in these requirements which we indicate briefly in the description. The degree of shade is expressed as a percentage. Most require plenty of moisture but good drainage. Being shade dwellers, they are accustomed to much woods earth and leaf mold.

Bletilla hyacintha. Attractive plaited leaves. Small amethyst-purple flowers in a raceme. 50% shade. The easiest orchid to grow. Native of China. 25c.

Calypso bulbosa. Oregon east to Maine. One of the rarest and most prized. 4" tall. 1 flower, pink with spotted sac. Grows in bogs hence plant in a moist, shaded, cool place, in well drained soil. Delivery in Apr. 75c.

Cypripedium acaule. Pink Lady Slipper. Native north east U. S. Soil must be quite acid, therefore add plenty peat or leaf mold from oak or pines. Lacking that use ½ lb. aluminum sulphate to the square yard. 75% shade. When established, requires less moisture than others. 50c.

C. pubescens. Yellow Lady Slipper. Soil near neutral, hence use no peat, but some common leaf mold. Needs no excessive moisture, and soil must be well drained, no standing water. 60% to 75% shade. 75c.

C. spectabile. (Syn. *reginae*). Showy Lady Slipper. Plants stout. Larger more showy flowers are white and orchid pink. Culture like *pubescens*, a little moister. 90c.

Galeorchis spectabilis. Showy Orchis. N.E.U.S. 1' tall. Up to 6 flowers, violet purple, variegated lighter. Native of deep woods and must have those conditions, rich leaf mold soil, rather heavy shade and even condition of moisture. \$1.25.

Habenaria ciliaris. Yellow Fringe Orchid. Considered our showiest native orchid. Brilliant orange. 50%-75% shade, moist, acid soil. \$1.00.

MISCELLANEOUS BULBS

Achimenes. (Gesneraceae). With so many customers "hollering" for them we had to buy this stock. Did we buy the cheapest offered, that could be sold for half this price or to our unsuspecting customers for the same price and make a lot of "dough, re, me?" No, we bought the best, from a careful, able grower. Assorted, named sorts, not rejected seedlings. The tubular flowers, on stems in the leaf axils, have wide open recurving petals, 1" to 3" across. Their charming colors range blue tones, orchid, lavender, purple, red, carmine, scarlet, pink, cerise, white, etc. 1' to 2' tall.

Culture. Easy, pots or garden, north or south. Require half shade, rich sandy loam with much leaf mold. Plenty of water when growing. Pot them Jan. 15 or a little later, 4 to 6 in a pot. Plant in garden when warm.

Assorted colors only (no choice of color possible). 8c ea., two for 15c. Per doz. 65c.

Anemones and Ranunculus. (Ranunculaceae). The culture is the same. Plant about 2" deep and 4" to 5" apart. Soil should contain leaf mould or well decayed fine manure. In So. Calif. and hot interior valleys they may be planted up to about Mar. 1 but earlier is better as they will not do well if they bloom during hot weather. Around the Bay or along cool beach regions they may be grown any time. In the north plant in early spring. Frost does not cut them back unless very severe.

Anemone. Blue Poppy. Large single blue flowers. Very large 2-yr. old bulbs. Per doz. 35c. 3 doz. for 90c.

Anemones. Assorted colors, all types are included. Regular No. 3 size, 60 for \$1.00, while they last. We have less than 2000. Separate colors: **Red** (His Excellency) or **White.** 25c doz. We have also some very small bulbs, assorted colors. Plant about ½" deep. Keep wet. 100 for 90c. Plant soon. They take a little longer to flower.

Ranunculus. Assorted colors. The No. 3 size is the standard size for planting outside. Best bulbs obtainable. Per 100, \$1.00. Per 1000, \$7.50. From our No. 3 bulbs we have sorted out the smaller ones. They should all flower splendidly. Per 100, 65c. Per 1000, \$5.00. **Large Bulbs.** Size No. 2. They make more flowers, but no larger. Bloom a little more quickly. 60 for \$1.00. Per 100, \$1.50. **Yellow Ranunculus.** Small No. 3 bulbs, probably not as good bulbs as above, 65c per 100. **Red Ranunculus.** Best No. 3 bulbs. 30c doz. 50 for \$1.00.

Oxalis. (Oxalidaceae). Many are winter growers but the following are summer growers and very much worth while. Easiest culture in full sun.

Oxalis Deppei. (sp. doubtful). One of those known as Shamrock. Lovely rosy deep pink flowers. 4 for 15c. Doz. 35c.

O. lasiandra. Prettiest summer Oxalis. 10" tall. Rosy carmine. Compound leaves have 7-10 leaflets. Desirable. 4 for 25c.

Commelina coelestris. (Commelinaceae) Day Flower. The most intensely, bluest blue flowers. Flowers open about noon in greatest profusion. Plants are almost perpetual bloomers. Plant tubers 3" deep. Full sun. Easy culture. 15c and 20c ea.

Tuberous Rooted Begonias. (Begoniaceae). A bulb, well known and desired by all. **Culture.** The best soil is half humus, the balance fine sand or sandy loam. For humus use two-thirds peat or leaf mold and one-third well rotted manure made fine as by rubbing thru a screen, no lumps. They like acid soil. If convenient improve this by adding charcoal or a little soot especially for pots. Cow manure water and soot water (handful to 2½ gal.) during growth, helps. Cover bulbs about 2". Constant moisture when growing should be furnished by daily sprinkling. But not too much moisture around bulbs before sprouts start or they may rot. The best way to start is to place bulbs on peat with the slightest moisture and plant only when top starts. They need about half shade or a little more but not too deep or they do not bloom so well.

We usually depend largely on Holland for bulbs. Only American bulbs being available, the supply is insufficient. You should order early to be safe. We offer our own choice of strains.

The new Giant Double Camellia Flowered Tuberous Begonias, in your choice of White, Yellow, Pink, Salmon, Orange, Scarlet, Crimson, Dark Red. Size of bulbs 1"-1½" diam. 7 for \$1.00 or one of each color, 8 for \$1.10. Per 100, \$10.

Assorted Colors and Types. Slightly smaller bulbs. 12c ea., 9 for \$1.00.

Darwin Tulips, assorted colors, diam. 1"-1½". 30c doz. 45 for \$1.00. 100 for \$1.80. Offer good only until Feb. 15.